

A MODULAR PHOTOCATALYTIC AIR PURIFIER

ABSTRACT OF THE INVENTION

A photocatalytic air purifier is disclosed. The photocatalytic purifier includes filter structures coated with a catalytic material such as titanium dioxide. One or more UV lamps are interposed between the filter structures. The catalytic layer reacts with airborne VOCs and bioaerosols when activated by the UV lamps to thereby oxidize the VOCs and destroy the bioaerosols. The photocatalytic air purifier does not need to be replaced or regenerated after a period of continuous usage. The photocatalytic purifier of the present invention substantially eliminates odors, VOCs, and bioaerosols from air directed through the fan coil. The photocatalytic air purifier includes a control system that optimizes operating costs. Because of these features, service, maintenance, and filter replacement are reduced to a minimum. At the same time, the well being of persons living in the space conditioned by the photocatalytic air purifier is improved.